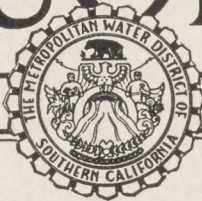


• COLORADO RIVER •  
**AQUEDUCT NEWS**

THE METROPOLITAN WATER DISTRICT

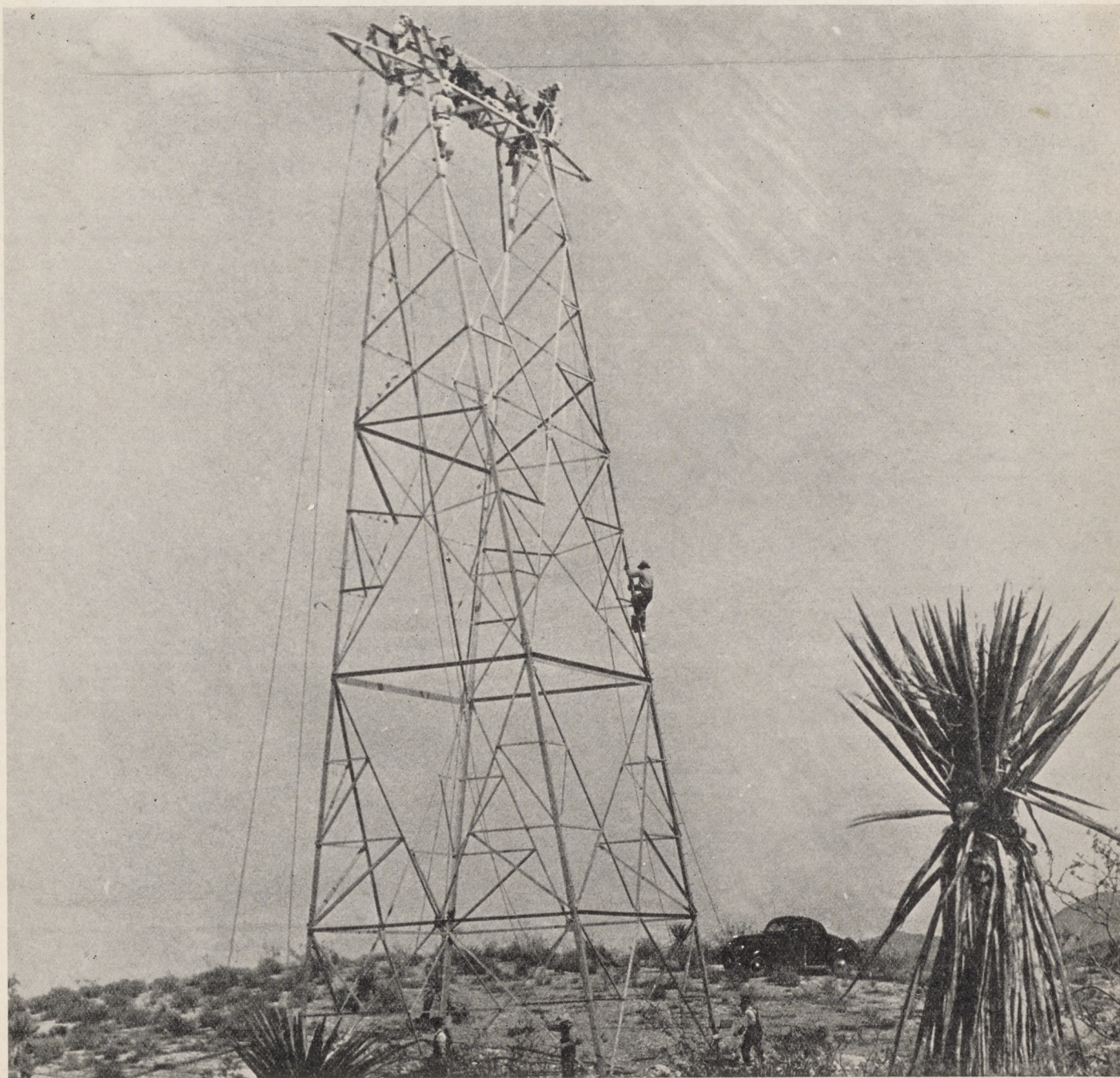


OF SOUTHERN CALIFORNIA

Vol. III.

OCTOBER 25, 1936

No. 20



One of the District's transmission line towers goes up near Searchlight, Nevada. This line will eventually carry 36 per cent of all electric power generated at Boulder Dam.



# • COLORADO RIVER • AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOS ANGELES, CALIFORNIA

Published twice monthly in the interest of Field and Office Workers on the Colorado River Aqueduct, and for the information of all other citizens of the Metropolitan Water District.

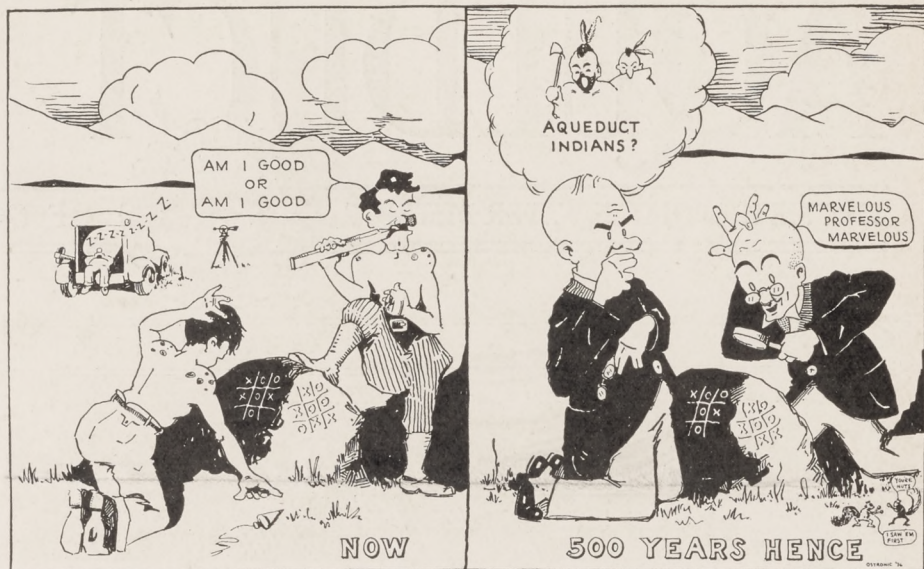
Vol. III October 25, 1936 No. 20

## Fast Progress On Transmission Lines

Stretched out in a great Y across the desert, with its foot at Boulder Dam, one of its arms reaching to the Gene pumping plant near the Parker Dam, and the other to the Iron Mountain pumping plant, the District's 230 k.v. power transmission system is now under construction along 193 miles of line. From Iron Mountain, the line will be extended west to the Eagle Mountain and Hayfield pumping plants, making a total length of 237 miles. Another line will also extend from the Gene plant to the Intake Plant on the Colorado River.

Fritz Ziebarth was awarded the contract for this work on July 27, 1935, and by the week ending October 17, 1936, his crews had placed 72 per cent of the concrete footings, had erected 126 miles of towers, and strung 92 miles of conductors. At the present time the contractor has 120 men working on the job. His foremen are M. H. "Mickey" Ervin, Pete Carion, Dick Ziebarth, Ted Schuerich, Fred Garlsgaard and O. M. "Red" Wing. The line is being constructed under the supervision of M. W. D. Transmission Engineer, Robert Allen.

When completed, there will be 937 of the big steel towers on this line. These towers have an average height of 80 feet, and at the present time the Ziebarth crews are setting them up at the rate of about four a day. Conductor is being strung at a rate of approximately 10 miles per week. This transmission line will eventually carry 36 per cent of all the electric energy generated at Boulder Dam. The power will be used to operate electric motors, which in turn will operate the pumps on the aqueduct. The largest of these electric motors will be installed at the Hayfield pumping plant where each motor will have a rated output of 12,500 horsepower.



### HISTORY IN THE MAKING

The scene on the left was snapped during a typical lunch-time philosophy meeting on any S. I. party along the line. At the right we see future students of anthropology attempting to decipher a hieroglyph of a prehistoric tribe known as "Aqueduckers."

## Directory

**BOARD OF DIRECTORS**  
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Secy. to Gen. Mgr.....Elisabeth von Hagen

**DIVISION ENGINEERS**  
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Divisions 2 & 3.....John Stearns  
Division 4.....R. C. Booth  
Divisions 5 & 6.....J. B. Bond  
Distribution.....R. B. Diemer  
Transmission.....Robert N. Allen  
**SUPERINTENDENTS**  
(Main Aqueduct Tunnels)  
Colorado River, Copper Basin and Whipple Mt. Tunnels, Walsh Construction Co., W. A. Huntington and L. M. Ramey, Tunnel Supts.  
Coxcomb and East Iron Mt.

tunnels, Winston Bros., R. V. Johnson, Gen. Supt.  
Iron Mt. Tunnel, West Portal, Utah Construction Co., Ben Arp, Gen. Supt.  
East Eagle Mt. Tunnel and West Eagle Mt. Tunnel, east portion, Broderick & Gordon, John Will, Gen. Supt.  
Coachella Tunnel, Dist. Force Acct., R. C. Booth, Gen. Supt.  
East Coachella Tunnel and 1000 Palms Tunnel, Concrete, V. T. Davis, Supt., J. C. Fischer, Guy Taylor, Gen. Foremen.  
All Coachella Siphon Construction, M. Hjalmarson, Supt.  
West Coachella Tunnels and Conduits, Concrete, Edwin Noon, Superintendent.  
Little Morongo, Excavation, R. Ferry, Supt.  
San Jacinto Tunnel, District Force Acct., B. C. Leadbetter, Gen. Supt.; A. L. Simpson, John Austin and C. E. Sides, Tunnel Supts.; Chas. F. Thomas, Jr., Gen. Foreman.  
Valverde Tunnel, Dravo Contr. Co., R. W. Remp, Gen. Supt.; H. C. Richardson, Asst. Gen. Supt.; Fred Youmans, Tunnel Supt.

### (Distribution Tunnels)

Monrovia tunnels Nos. 1, 2 and 3, West Construction Co., H. E. Carleton, Gen. Supt.; O. V. Humason, Peter Brisbols and Angus MacDonnell, Tunnel Supts.  
Sierra Madre tunnel, J. F. Shea Co., Inc., Edmund H. Shea, Supt.  
Pasadena tunnel, San Rafael tunnels Nos. 1 and 2, and Monrovia tunnel No. 4, L. E. Dixon Co., Bent Bros., Inc., and Johnson, Inc., S. D. Hackley, G. A. Scott and W. N. Evans, Supts.

### (Canal, Siphon, Conduit)

Schedules Nos. 1, 1A, 1B, 10, 10A, 10B, 11, 11A, 11B, 11C, 13, 13A, and 13B, Aqueduct Construction Co., S. T. Corfield, Gen. Supt.; Charles Harlowe, Jr., Excav. Supt.  
Schedules Nos. 2, 2A, 2B, 3,

3A, 3B, 7 and 7A, Barrett & Hilp and Macco Corp.; H. W. McKinley, Supt.  
Schedules Nos. 4, 4A, 5 and 5A, Jahn & Bressi Construction Co., Joseph Muscolo, Gen. Supt.; Dominick Bressi, Asst. Gen. Supt.

Schedules Nos. 6, 8, 8A and 8B, Clyde W. Wood and M. J. Bevanda, A. F. Weesner, Gen. Supt.; L. L. Green, Excav. Supt.; A. V. Fisher and V. S. Price, Concrete Supts.

Schedules Nos. 9, 9A, 9B and 9C, The Utah Construction Co., Ben Arp, Gen. Supt.; E. C. Caldwell, Excav. Supt.

Schedules Nos. 12 and 12A, Three Companies, Inc., C. J. Kavanagh, Supt.

Schedules Nos. 14, 15 and 16, Thompson-Starrett Co., Inc., Rodney Smith, Resident Engineer; William Hayes, Excav. Supt.

Schedule 17, Dist Force Acct., H. Hjalmarson, Supt., (Fan Hill).

Schedule 18J, Morrison-Knudsen, J. O. Young, Gen. Supt.

Schedules Nos. 18, 19 and 20, J. F. Shea Co., Inc., H. F. Rennebohm, Supt.

Schedules Nos. 20A, 20B, 20C, 21, 22 and 23, The Griffith Co., Harry Davis, Supt.

### (Distribution Pipe Line)

Schedules No. 4P & 5P, American Concrete & Steel Pipe Co., Wm. A. Whiting, Gen. Supt.; D. H. Rankin, Plant Supt. and Const. Supt.

Schedules 6P & 7P, J. F. Shea Co., Inc., Gilbert Shea, Gen. Supt.; Don Lind, Plant Supt.

Schedule 8P, United Concrete Pipe Corp., John Huber, Plant Supt.; Charles Johnston, Const. Supt.

Schedules 2B & 2S, Western Pipe & Steel Co., L. L. White, Supt.

### (Dams)

Cajalco dam, The Griffith Co., Harry Davis, Gen. Supt.  
Parker dam, Six Cos., Inc., Frank Crowe, Gen. Supt.; E. A. Moritz, Eng. in charge.





Reprinted from Compressed Air Magazine

#### OLD PRINT SHOWS DRIVING OF NATION'S FIRST LARGE TUNNEL

This sketch, drawn by Joseph Becker for "Leslie's Weekly" in 1873, shows excavation methods used in the Hoosac Tunnel in northeastern Massachusetts. A railroad tunnel, it is  $4\frac{3}{4}$  miles long and was excavated to a section 26 feet wide and 26 feet high. The tunnel was driven from both portals, and from a central shaft, and required 18 years to excavate. It was the first major tunnel-driving venture in the United States, and marked the first practical use of compressed air rock drills and of nitroglycerin in this country. Although most of the equipment was hand operated, the first drill jumbo originated on this job—12 drills were used at each face, and were mounted six to a carriage.

## Monrovia No. 3 Holed Thru East of Adit; San Rafael No. 2 After Speed Record

At 5:25 A.M. on October 16, West Construction Company crews fired the last round in the eastern portion of Monrovia tunnel No. 3. The full tunnel section was carried to daylight, the east portal being in San Gabriel Canyon below the Morris Dam. The working face was advanced from the Fish Canyon Adit of the tunnel, a total distance of 11,340 feet.

Under the direction of Superintendent Peter Brisbois, the heading east from the adit was started on September 25, 1935. Since this date the crews have made an average of 10.6 feet per shift in excavating the hard-rock tunnel. Their best day was on April 13, 1936, when, in spite of the jinx date, they made 54 feet. During the previous month, March, 1936, they excavated 1,210 feet at an average of 13.8 feet per shift. V. P. "Wally" Pentegoff is the District's chief inspector on the job. The contractor's crews at the time of the holing through were headed by shifters Ed Fanstead, John Fanstead, and Boyd McCutcheon. Walter Dunham is night walker.

Monrovia No. 3 is part of the upper feeder of the distributing system, and runs east to west between San Gabriel and Monrovia canyons. Its total length

is 32,105 feet. Like the other distribution tunnels it is circular, and will have a lined diameter of 10 feet. It is being driven from the West Portal in Monrovia Canyon, and a 1,746 adit in Fish Canyon. At the present time approximately 3,200 feet remain to be driven between the West Portal heading and the face west of the Fish Canyon adit.

\* \* \*

On the western end of that part of the upper feeder now under construction are San Rafael tunnels, Nos. 1 and 2, being constructed by Dixon, Bent and Johnson. With Superintendent W. N. "Bill" Evans at the helm, these crews have recently been picking up excavation speed on tunnel No. 2. On October 13 (the number 13 seems to be the lucky one), the crews under shifters D. F. Simpson, Orville Slason, and Dee Sherwood, excavated 45 feet. On both the 12th and the 14th, they drove 40 feet. The working day consists of three  $6\frac{2}{3}$  hour shifts, based on a 40-hour week. Bill Evans was formerly the District's chief inspector on the tunnels, and also worked on Distribution preliminary surveys. Julius Williams is chief M. W. D. inspector at the present time.

### SAFETY FLAG AWARDS

#### TUNNEL OPERATIONS:

##### Coachella Division

The Coachella Division Safety Flag was won by Fan Hill for September. During the month, Fargo, Morongo and Wide, as well as Fan Hill, worked the entire period without a lost-time accident.

##### San Jacinto Tunnel

For September, the Safety Flag again goes to West Portal. East Portal also worked the month without a lost-time accident. Both Camps will fly a safety flag from October 15 to November 15.

##### Banning-Berdoo

Banning won the first flag award in the newly organized Banning-Berdoo safety flag contest. This group includes the San Jacinto general machine shop, and general store, the Operating Department, and the Coachella general machine shop (with bull-gang) and general store.

## West Portal Sets Safety Record

West Portal Camp (San Jacinto Tunnel) has put over a "big push" in safety on the aqueduct.

According to information received from Safety Engineer Osgood, this camp worked 186 days, 244,000 man-hours, from March 30 to October 3, 1936, without any workman sustaining an injury which caused loss of time beyond the day of the accident, thereby establishing a new high record. The lost-time accident frequency for this camp is 19 for the first nine months of 1936.

Through the leadership of Superintendent C. F. Thomas, and the hearty cooperation of the men of his force, a safety club was organized. This club and the camp safety committee hold enthusiastic monthly meetings, which, together with other activities, have developed the desire and determination within that group to maintain safe conditions and safe practices on the job.

This experience at West Portal Camp is one of many commendable safety records realized by aqueduct camps, and these accomplishments afford proof that when serious attention is given to safety, injuries to workmen are brought down to a minimum.

#### RIVER DIVERTED

Word was received from Parker Dam as this issue was going to press, that Colorado River diversion was started at the damsite at 10:15 P. M., October 21.



# CONSTRUCTION

## TUNNELS

TUNNEL EXCAVATION (MILES)  
Completed Remaining

Aqueduct	86.50	5.61
Distribution	14.79	1.41
Total	101.29	7.02

September 15 to October 15, 1936

\*TUNNEL LINING (MILES)  
Completed Remaining

Aqueduct	62.06	30.05
Distribution	4.10	12.06
Total	66.16	42.11

\*Arch considered to equal 0.9 completed section.

### TUNNEL PROGRESS

CONTRACTOR	TUNNEL	LENGTH IN FEET	EXCAVATION IN FEET					LINING IN FEET					
			NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE	REMAIN- ING	ARCH OR INVERT	NUMBER OF SHIFTS	AVERAGE PER SHIFT	THIS PERIOD	TOTAL TO DATE	REMAIN- ING
WALSH CONSTRUCTION CO.	COLORADO RIVER	5,482		Completed	5,482	0		Arch			0	5,475	7
	COPPER BASIN NO. 1	705		Completed	705	0		Invert			0	5,475	7
	COPPER BASIN NO. 2	11,568		Completed	11,568	0		Arch			0	696	9
	WHIPPLE MOUNTAIN	(32,238)		Completed	(32,238)	(0)		Invert			0	696	9
	East from Adit	18,336		Completed	18,336	0		Arch	69	114.1	7874	11,568	0
WINSTON BROTHERS	West from Adit	13,902		Completed	13,902	0		Invert			0	11,568	0
	IRON MT. (E. PORTION)	(23,645)		Completed	(23,645)	(0)		Arch			0	15,286	(32,238)
	East from Shaft	9,902		Completed	9,902	0		Arch			0	13,898	3,050
WINSTON BROTHERS	West from Shaft	13,743		Completed	13,743	0		Arch			0	13,728	15
	IRON MT. (W. PORTION)	16,208		Completed	16,208	0		Invert	3	212.3	637	637	9,265
	COXCOMB (From E. Portal)	17,795		Completed	17,795	0		Arch	43	306.3	13,183	9,887	15
UTAH CONSTRUCTION CO. WINSTON BROTHERS	E. EAGLE (From W. Portal)	9,440		Completed	9,440	0		Arch			0	16,208	0
	W. EAGLE (E. PORTION)	(15,845)		Completed	(15,845)	(0)		Invert	46	244.2	11,237	11,237	4,971
	East from Adit	7,871		Completed	7,871	0		Arch			0	0	17,795
BRODERICK & GORDON	West from Adit	7,974		Completed	7,974	0		Invert			0	0	17,795
	VALVERDE	(38,015)		Completed	(38,015)	0		Arch	21	88.1	1,849	0	9,440
	East Portal to Shaft 3	21,415		Completed	21,415	0		Arch	31	86.9	2,694	1,849	(15,845)
DRAVO CONTRACTING CO.	West from Shaft 3	12,067		Completed	8,964	0		Invert			0	0	6,022
	East from Adit	4,533		Completed	3,103	0		Arch	0	0	0	38,014	1
	West from Adit	4,533		Completed	4,533	0		Arch	0	0	0	38,014	1
TOTALS		Ft. 170,941 Miles (32.38)			170,941 (32.38)	0 (0)		Arch	121	102.6	12,417	134,583	36,358
								Invert	92	272.4	25,057	81,370	89,571

### AQUEDUCT — FORCE ACCOUNT

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	EAST COACHELLA	(96,605)		Completed	(96,605)	0		Arch			0	28,512	0
	East Portion	28,512		Completed	28,512	0		Invert			0	28,129	383
	West Portion	68,093		Completed	68,093	0		Arch	77	55.7	4,290	43,815	24,278
	1000 PALMS NO. 1 (From W.P.)	16,058		Completed	16,058	0		Invert			0	68,093	0
	1000 PALMS NO. 2	3,838		Completed	3,838	0		Arch	76	47.1	3,581	9,815	6,243
	WIDE CANYON NO. 1	14,305		Completed	14,305	0		Arch			0	3,838	0
	WIDE CANYON NO. 2	848		Completed	848	0		Arch			0	14,305	0
	SEVEN PALMS (From E. Prtl)	4,810		Completed	4,810	0		Arch			0	848	0
	(From W. Prtl)	11,920		Completed	11,920	0		Arch			0	16,730	0
	LONG CANYON	15,305		Completed	15,305	0		Arch			0	15,305	0
	BLIND CANYON	6,836		Completed	6,836	0		Arch	63	89.3	5,628	6,836	0
	MORONGO NO. 1	5,725		Completed	5,725	0		Arch			0	0	5,725
	MORONGO NO. 2	1,902		Completed	1,902	0		Arch			0	0	1,902
	SAN JACINTO	(68,866)		Completed	(39,224)	(29,642)		Arch			0	0	(68,866)
	Cabazon Shaft to East Portal	8,880		Completed	8,880	0		Arch			0	0	0
DIXON, BENT BROS. & JOHNSON	Cabazon to Lawrence	26,817	90	5.2	470	16,951		Invert			0	8,346	60,520
	Cabazon Pioneer	18,119	90	5.2	469	1,349		Arch	216	62.5	13,499	140,004	107,014
	Lawrence Adit	5,651	90	2.3	210	1,485		Arch	36	168.1	6,052	40,313	206,705
	Potrero Pioneer	15,163	90	8.7	781	2,754		Arch			0	0	0
	Potrero to Lawrence	17,670	90	8.4	753	4,979		Arch			0	0	0
	Potrero Shaft to West Portal	15,499		Completed	15,499	0		Arch			0	0	0
	TOTALS	Ft. 247,018 Miles 46.78	180	6.8	1,223 (0.23)	217,376 (41.17)	29,642 (5.61)	Arch	216	62.5	13,499	140,004	107,014
								Invert	36	168.1	6,052	40,313	206,705

### DISTRIBUTION — CONTRACT

GRIFFITH CO.	CAJALCO OUTLET	2,439	50	8.1	404	2,239	200				0	2,439	
WEST CONSTRUCTION CO.	MONROVIA NO. 1 (From W.P.)	7,868		Completed	7,868	0		69	34.2	2,360	5,662	2,133	
	MONROVIA NO. 2 (From Jct.1)	940		Completed	940	0					0	855	
	MONROVIA NO. 3	(32,105)			(28,879)	(3,226)					0	(32,069)	
	East from Adit	11,340	86	10.6	908	11,340	0				0		
	West from Adit From West Portal }	20,765	86 84	5.1 5.7	437 481	5,075 12,464	3,226				0		
DIXON, BENT BROS. & JOHNSON	MONROVIA NO. 4 (From W.P.)	8,096	78	7.3	572	4,658	3,438				0	8,084	
J. F. SHEA CO., Inc.	SIERRA MADRE (From E. Prtl)	6,700		Completed	6,700	0		Completed			6,700	0	
DIXON, BENT BROS. & JOHNSON	PASADENA EAST	5,546		Completed	5,546	0		Completed			5,546	0	
	PASADENA (From West Portal)	12,140		Completed	12,140	0		78	23.2	1,810	3,769	8,371	
	SAN RAFAEL No. 1 (From W.P.)	4,040		Completed	4,040	0	4,040						
	SAN RAFAEL No. 2 (From E.P.)	5,669	78	10.8	845	5,069	600				0	5,669	
TOTALS		Ft. 85,543 Miles (16.20)	462	7.9	3,647 (0.69)	78,079 (14.79)	7,464 (1.41)	Full Section	147	28.4	4,170 (0.79)	21,677 (4.10)	63,660 (12.06)



# ION PROGRESS

CANAL, CONDUIT AND SIPHON (MILES)		
	Completed	Remaining
Excavation	119.43	26.29
Concrete	106.52	38.15
Back Fill	49.63	32.84

## CANAL, CONDUIT, SIPHON & PIPE LINES

September 26 to October 10, 1936

DISTRIBUTION PIPE LINE (MILES)		
	Completed	Remaining
Excavation	14.25	27.33
Concrete	12.52	29.06
Back Fill	10.73	30.85

### AQUEDUCT

SCHED. NO.	CONTRACTOR	FEATURES	Length In Feet	EXCAVATION—Feet			CONCRETE—Feet			BACKFILL—Feet		
				Period	To Date	Remain'g	Period	To Date	Remain'g	Period	To Date	Remain'g
1	AQUEDUCT CONSTR. CO.	Conduit and Siphons	22,025	0	22,025	0	0	22,025	0	0	22,025	0
2	BARRETT & HILP	Conduit and Siphons	30,569	0	29,314	1,255	0	24,584	5,985	0	22,400	8,169
3	AND MACCO CORP.	Canal and Siphons	40,499	0	39,574	925	360	32,464	8,035	0	1,390	10,955
4	JAHN & BRESSI	Canal and Siphons	53,218	0	53,218	0	0	53,218	0	0	1,992	1,083
5	CONSTR. CO.	Canal and Siphons	53,588	0	53,588	0	0	53,588	0	0	2,700	1,320
6	WOOD AND BEVANDA	Siphon	15,521	0	15,521	0	0	15,521	0	0	13,043	2,478
7	BARRETT & HILP & MACCO CORP.	Canal and Conduit	27,707	0	27,707	0	0	27,707	0	0	12,170	0
8	WOOD AND BEVANDA	Canal and Siphons	49,579	0	49,579	0	0	49,174	405	0	7,090	800
9	UTAH CONSTRUCTION CO.	Canal, Conduit and Siphons	47,363	0	46,336	1,027	0	44,074	3,289	0	1,975	4,224
10	AQUEDUCT CONSTR. CO.	Canal and Siphons	44,505	0	44,505	0	0	44,505	0	0	3,594	1,256
11	THREE COMPANIES, INC.	Canal, Conduit and Siphons	44,002	2,666	18,285	25,717	385	385	43,617	0	0	10,322
12	AQUEDUCT CONSTR. CO.	Conduit and Siphons	32,977	0	28,789	4,188	0	24,652	8,325	0	23,030	9,947
13	THOMPSON-STARRETT CO.	Canal, Conduit and Siphons	31,965	0	25,222	6,743	2,935	14,183	17,782	0	0	3,665
14	M. W. D.—FORCE ACCT.	Conduit and Siphons	32,366	0	32,366	0	0	32,366	0	0	32,366	0
15	J. F. SHEA CO., INC.	Conduit and Siphons	35,849	2,171	5,114	30,735	916	1,050	34,799	0	0	35,849
16	M. W. D.—FORCE ACCT.	Conduit and Siphons	19,359	0	0	19,359	0	0	19,359	0	0	19,359
17	J. F. SHEA CO., INC.	Conduit and Siphons	21,961	750	19,380	2,581	733	13,348	8,613	25	10,868	11,093
18	J. F. SHEA CO., INC.	Conduit and Siphons	27,537	710	19,160	8,377	1,752	15,915	11,782	0	13,939	13,598
19	M. W. D.—FORCE ACCT.	Conduit and Siphons	37,364	0	0	37,364	0	0	37,364	0	0	37,364
20	J. F. SHEA CO., INC.	Siphons	18,618	0	18,618	0	0	18,618	0	0	18,618	0
20 A & B	M. W. D.—FORCE ACCT.	Siphons	735	0	705	30	0	0	735	0	0	735
21	GRIFFITH COMPANY	Siphons	14,613	0	14,613	0	0	14,613	0	0	14,613	0
22	(Outlet Channel Unlined)	Siphons	7,229	0	7,229	0	0	7,229	0	0	7,229	0
23	WINSTON BROS. CO. & WILLIAM C. CROWELL	Conduit and Outlet Channel	38,695	0	38,695	0	0	33,145	0	0	33,145	0
3	WINSTON BROS. CO. & WILLIAM C. CROWELL	Siphon (Gene Inlet)	1,877	16	1,692	185	270	859	1,018	80	610	1,188
4	WINSTON BROS. CO. & WILLIAM C. CROWELL	Siphon (Copper Basin)	450	0	116	334	0	0	450	0	0	0
TOTALS			750,171	6,297	611,351	138,820	7,351	534,223	201,398	105	242,797	173,405

### DISTRIBUTION PIPE LINES

1	AMER. CONC. & STL. PIPE CO.	Precast Concrete Pipe	12,227	0	0	12,227	0	0	12,227	0	0	12,227
2	WESTERN PIPE & STL. CO.	Welded Steel Pipe	54,530	2,097	21,896	32,634	2,607	13,035	41,495	993	7,296	47,234
3	AMER. CONC. & STL. PIPE CO.	Precast Concrete Pipe	20,124	0	0	20,124	0	0	20,124	0	0	20,124
4	AMER. CONC. & STL. PIPE CO.	Precast Concrete Pipe	25,867	0	25,867	0	0	25,867	0	0	25,867	0
5	J. F. SHEA CO., Inc.	Precast Concrete Pipe	24,895	2,295	4,400	20,495	2,306	4,297	20,598	2,175	3,545	21,350
6	UNITED CONC. PIPE CORP.	Precast Concrete Pipe	27,348	1,235	6,314	21,034	1,367	6,254	21,094	1,231	5,087	22,261
7	UNITED CONC. PIPE CORP.	Precast Concrete Pipe	30,044	0	0	30,044	0	0	30,044	0	0	30,044
8	UNITED CONC. PIPE CORP.	Precast Concrete Pipe	24,525	1,343	16,750	7,775	1,297	16,647	7,878	2,244	14,872	9,653
TOTALS			219,560	6,970	75,227	144,333	7,577	66,100	153,460	6,643	56,667	162,893

### MISCELLANEOUS CONSTRUCTION

September 26 to October 10, 1936

### AQUEDUCT PUMPING PLANTS AND APPURTENANT WORKS

CONTRACTOR	FEATURES	EXCAVATION—Cu. Yds.				CONCRETE—Cu. Yds.				STEEL—Tons			
		Est.Quan.	Period	To Date	%	Est.Quan.	Period	To Date	%	Est.Quan.	Period	To Date	%
WINSTON BROS. CO. & WILLIAM C. CROWELL	Intake Plant	102,400	2,700	97,546	95.3								
WOOD AND BEVANDA	Gene Plant	92,600	5,270	85,180	92.0	13,370	120	1,164	8.7	2,052	0	24.0	1.2
L. E. DIXON CO.	Iron Mt. Plant	358,700	200	224,792	62.7	19,897	26	106	0.5	1,707	2.8	3.4	0.2
L. E. Dixon & Case Const. Co.	Eagle Plant	227,695	17,125	142,379	62.5	21,122	0	656	3.1	2,160	0	39.2	1.8
	Hayfield Plant	328,900	6,400	6,400	1.9	32,319	0	0		2,738	0	0	
TOTALS			31,695	556,297			146	1,926			2.8	66.6	

### BOULDER TRANSMISSION LINE—FRITZ ZIEBARTH

FEATURES	Length-Line MI.	Period	To Date	Percent
Footings Constructed	237.0	1	167.0	70.0
Towers Erected	237.0	12	121.0	51.0
Wire Strung	237.0	17	82.0	34.6

### TELEPHONE LINES—NEWBERY ELECTRIC CO.

FEATURES	Length-Line MI.	Period	To Date	Percent
Converting Spur to Trunk Line	7.8	0	7.8	100
Constructing New Trunk Line	139.5	0	139.5	100

### PARKER RESERVOIR—SIX COMPANIES, INC.

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnels—Excav.	3,463 Ft.	0	3,463	100
Diversion Tunnels—Concrete	3,363	0	3,363	100
Dam Excavation	1,391,000 C.Y.	22,576	303,279	21.8
Dam Concrete	277,900 C.Y.	0	0	0

### CAJALCO RESERVOIR—GRIFFITH COMPANY

FEATURES	Est. Quan.	Period	To Date	Percent
Diversion Tunnel	2,000 Ft.	0	2,000	100
Dam & Dike Excavation	651,000 C.Y.	26,236	432,872	66.5
Dike Fill	4,113,000 C.Y.	0	3,036,000	73.8
Dam Fill	3,410,000 C.Y.	107,600	801,600	23.5

### COMPLETED FEATURES

TUNNELS					CANAL, CONDUIT AND SIPHON				
CONTRACTOR	TUNNEL	Length in Miles	Work Started	Work Completed	CONTRACTOR	FEATURE AND NAME OR SCHEDULE	Length in Miles	Work Started	Work Completed
MORRISON-KNUDSEN CO.	Mecca Pass, No. 1, 2 & 3	1.13	7-17-33	2-10-35	UNITED CONC. PIPE CO.	LITTLE MORONGO SIPHON	0.13	2-27-34	8-20-34
WEST CONSTRUCTION CO.	Whitewater Nos 1 & 2	1.94	7-18-33	4-15-35	M.W.D.—FORCE ACCT.	FAN HILL COND. & SIPHON	0.32	10-21-33	11-19-34
SHOFNER & GORDON	Hayfield No. 2	1.03	7-8-33	7-27-35	GRIFFITH COMPANY	SCHEDULE NO. 20-C	1.33	5-3-35	9-14-35
HAMILTON & GLEASON	Bernasconi	1.18	4-19-33	11-21-35	MORRISON-KNUDSEN CO.	BIG MORONGO & SAN ANDREAS SIPHONS	1.86	2-12-35	9-16-36
J. F. SHEA CO., INC.	Cottonwood	3.81	6-14-33	12-29-35					
HUNKIN-CONKEY CON. CO.	Hayfield No. 1	1.84	10-21-33	1-9-36					
DIXON & BENT BROS.	W. Eagle-W. Por.	2.02	9-8-33	3-12-36					
TOTALS		12.95			TOTALS		3.64		



## Aqueduct Workers Reminded of Ballot

Aqueduct workers who will be away from their homes on November 3rd, the date of the General Election, are again reminded that they can cast their vote by an absentee ballot. Instructions covering the necessary procedure have been forwarded by the General Manager to all camps, as well as application forms for ballots. These applications, properly filled out as covered in the instructions, must be received by the necessary election officers between October 14 and October 29. When the absentee ballot is marked, the law requires that the voter stamp and seal it in the presence of a Notary Public, or any public officer authorized to administer oaths. These ballots must be received by the election officers not later than November 9, 1936.

## This Week's Moral Lesson

"To the victor belongs the spoils," has been the battle cry of the ages. Such was the general idea of the West Construction crews about to hole through on the east part of Monrovia tunnel No. 3 (story page 3). With that in mind, this hard-rock gang organized a pool, at a dollar a throw, to go to the man who held the number closest to the actual time that the last round was fired. Sixty gents contributed 60 dollars to this pot, which would make a pleasing addition to any week's pay check. Among the contributors was Hard Rocker Irvine Lockhart, and also Hard Rocker Robert Mills. Now Mr. Lockhart, being of a naturally generous nature, thought that he was going to win this pool, and he wanted Bob Mills to have part of the proceeds. (That's *his* story.) Shortly before the round was fired, Lockhart talked Mills into buying half of his (Lockhart's) chance. Oh, well, it's always more blessed to give than to receive. As you've guessed, Lockhart's number won the pool, and he had to fork over \$30 of it to Mills.

### COMPLETION NOTICES FILED ON 2 CONTRACTS

Two more jobs are about to slide into the "completed" column. Notices of completion were filed on September 16 for schedule 18-J, Morrison-Knudsen's Big Morongo and San Andreas siphons, and on October 13 for Griffith Co.'s contract 143, schedules 20-C, 21, 22, 23, and 23-A—siphon, conduit and outlet channel work, all west of San Jacinto.

# MONTHLY REPORT REVIEWS ACTIVITIES ALONG THE AQUEDUCT LINE

(EDITOR'S NOTE: The following is a brief summary of some of the activities of the District as set forth in the monthly report of General Manager F. E. Weymouth, filed with the Board of Directors in October and covering work done in September.)

### Legal Division

A contract was completed between the United States and the District, for the installation of a power plant and substructure and forebay excavation at Parker Dam. Proceedings relating to the sale to the Reconstruction Finance Corporation of \$14,184,000 bonds were prepared and submitted to the bond counsel and counsel for the R.F.C., and have been pronounced satisfactory by bond counsel.

### Miscellaneous Activities Division

During the month of September 1,678 employment applicants were cleared through the District's Labor Office. Of this number 650 were made available for force account work, and 1,028 were made available for aqueduct contractors. This is the largest number of men cleared for aqueduct construction work since April, 1935. On September 18, the District installed an aqueduct exhibit at the Los Angeles County Fair, and during the 16 days of the Fair, it was estimated that 75,000 people visited the exhibit.

### Field Engineering and Construction

*Safety Engineering*—(See safety awards, page 3. The lost-time frequency for the first eight months of 1936 for all aqueduct and distribution tunnels was 90; total man-hours worked, 738,183. The frequency for all aqueduct and distribution open work during the same period was 69, with a total of 321,178 man-hours worked.

*Testing Laboratory*—Approximately 260,300 barrels of cement were sampled and tested from the mills, and a total of 188,806 barrels of cement were shipped to the construction work during September. Two one-week courses of instruction were given during the month to a total of 36 men who will be used as inspectors on concreting operations. This brings the total number of men receiving instruction in concreting procedure to 243.

*Operation of Utilities*—During the period August 16 to September 15, 5,964,641 kw. hr. of power was used; 18,828 long distance telephone calls were handled; and 4,607,050 cubic feet of water was delivered.

*Aqueduct Construction*—See tables on pages 4 and 5.

### Civil Engineering Division

*Specifications*—Five sets of specifications were issued during September, including the San Gabriel, Monrovia and Eagle Rock canyon crossings on the distribution upper feeder. Bids were opened for steel structures for the San Jacinto, East Portal, batching plant, and for whitewash materials.

*Design*—The principal work of the design section during the month was the analysis, by the trial load method, of sections for Copper Basin and Gene Wash arch dams. Specification drawings for these dams will be completed soon after October 15.

*Materials*—Orders were placed for 227 tons of rail steel and 1,404 tons of billet steel. Of the rail steel, 131 tons were for the main aqueduct, and 96 tons for the distribution system. Nine tons of the billet steel were for the main aqueduct, and 1,395 tons were for the distribution system.

### Distribution Division

*Office Engineering*—Estimates were prepared for various methods of serving areas in the southern portion of Ventura County, and of the cost of delivering Colorado River water to the southern part of San Diego County.

*Field Construction*—See tables on pages 4 and 5.

### Electrical Engineering Division

Construction progress for the pumping plants and transmission lines is shown in the tables on pages 4 and 5. Work was continued on the design of piping and equipment for pumping plants, the Copper Basin outlet structure, and the 230-kv switch rack at Camino.

### Personnel Division

The net turnover for all divisions during the month was 15.04; 110 classified positions were filled.

### Purchasing Division

Carload forwardings for the month were 835, and 2,323 purchase orders were issued totaling \$294,063.

### Accounting and Costkeeping

As of September 30, 1936, the total cost of the aqueduct was \$105,785,935.



# NEWS FROM FIELD AND OFFICE

Bob Allen informs us that Fritz Ziebarth's crews on the construction of the transmission lines are about to go Hollywood. One of the local entertainment factories is soon to go on location in the desert to make a picture based on power line construction, and will film the crews on the M. W. D. transmission lines to get authentic "color". Bob Allen himself has taken a number of hundred feet of motion picture film on the job which graphically illustrate the unique phases of the work.

\* \* \*

Grimly resolved to retrieve the baseball trophy, now smugly resting in the Banning Headquarters, ten stalwarts from the L. A. Office have banded themselves together to do or die, or at least win the ball game at the forth-coming picnic. Taking the mighty oath are Harry Crawshaw, Si Perliter, Charlie Brandt, Walter Winzell, Ken Davis, Charlie Fredericks, Bob Varney, Hugh Jones, Fred Ingram and Owen Maier.

\* \* \*

Lincoln C. "Honest Abe" Smiley who has been pulling wires as a telephone operator in the operating division is now pulling a chain on Division 3.

\* \* \*

Bob Kittrell, nurse at San Jacinto, has been moved east to the Coachella Division.

\* \* \*

Kenneth MacIsaac, Concrete Superintendent on the Long Canyon and Wide Canyon tunnels, resigned from the District on October 16, to accept a position with Bent Bros. and Griffith on the Conchas Dam project in New Mexico. He had been with the M. W. D. since November, 1933, on tunnel work. Graduating from Lehigh University in 1920 he has had 16 years of mining and heavy construction work, including two years as general superintendent on the Recoleta Dam project, Ovalle, Chile. Immediately prior to his employment by the District he had been with Bent Bros. on the Morris Dam.

\* \* \*

More vital statistics: Lloyd Joseph Wittman, weight 8 pounds, 12 ounces, arrived in the Otto Wittman household at 2 P. M. on October 14. Otto is one of the District inspectors on the lining of Monrovia tunnel No. 1.

## Aqueduct Temperatures

Oct. 1 to Oct. 15, 1936

	Max.	Min.
Div. 1 .....	103°	59°
Div. 2 .....	102°	59°
Div. 3 .....	102°	56°
Div. 4 .....	95°	58°
Div. 5 and 6 ....	99°	47°

The back to the earth movement, started in the Cajalco soil lab, seems to be gaining speed. The latest to fall in line is Sidney R. Query of the M. W. D. forces on the reservoir job. Miss Irene Mildred Gilmore, of Ogden, Utah, became Mrs. Query on September 28, at South Pasadena. The newlyweds will establish their home in Arlington.

\* \* \*

Mr. and Mrs. J. L. Burkholder announced the marriage of their daughter, Elizabeth Sue Burkholder, to Mr. Euclid Vance Watts at the Burkholder home in San Marino on Saturday, October 10. Mr. Watts is a recent graduate of Cal Tech, and Mrs. Watts graduated from Pomona College. They will live in Bakersfield.

\* \* \*

J. R. "Jack" Townsend has been transferred from the Cajalco Office of the Distribution Division to the Banning Headquarters.

Banning, Oct. 16. "The pasture pool artists of the M. W. D. field forces, Div. 1 to 5 incl., hereby challenge the combined L. A. Office and Distribution Div. to a golf match on Picnic Day, Nov. 8. . . ."

Los Angeles, Oct. 19. (Ed. note: . . . indicates censorship) " . . . audacity, effrontery, and temerity of the Field in issuing a challenge to the L. A. Office. . . . Of course the heat of the summer may have had something to do with this boldness . . . we have decided to enter no one in the tournament who uses other than a putter on a 3 par hole. We accept this challenge, and in so doing warn the Field. . . ."

\* \* \*

Those who suffered from Fred Fauble's cigars on Division 4, and at Cajalco, may be gratified to know that the combined strength of the Distribution L. A. Office has prevailed on Fred to give up the weed. He's now working on a fragrant pipe, smelling suspiciously like one that Dick Ward threw away about a year ago. Fauble states that the real reason he gave up the six cigars per day that he smoked, is that the dime per day was breaking him.

\* \* \*

Ralph C. Davis, formerly of the Operating Division, has been transferred to Division 2.

\* \* \*

Slowly, but surely, Harry Kemp is recovering from the effects of fatherhood. A number of weeks ago there were rumors that there had been an addition to the Kemp family. The *News* correspondent "holed" Harry in the dark recesses of Monrovia tunnel No. 1, where he is a M. W. D. inspector, and demanded facts. With a little prompting, Kemp admitted that he is now the proud father of a baby girl. What was the baby's name? Carla Mae. When was she born? The answer flashed right back—in September. Yes, but on which of the 30 days? Harry was stuck, he'd have to ask his wife. The next morning he beamingly reported that the birth date was September 8. Fine, how much did she weigh? Harry sighed. Was the information really needed? Assuredly. Well, he'd have to ask Mrs. Kemp about that, too. Finally, after three days of research, he was able to tell the whole story, the weight being 8 lbs. 14 oz.



THE HIGH PRESSURE GANG

A splicing crew of the Ziebarth Company on the M. W. D. transmission line near Searchlight, Nevada. The machine is a manually operated hydraulic compressor which applies a 100-ton pressure to the sleeve around the conductor to form the splice. From left to right are R. T. Duncan, T. R. Hancock, G. C. Blackman, and T. P. Mathews.



## Valve Contract To Baltimore Firm

Offering a low bid of \$124,578 for the construction of 19 large butterfly valves, to be installed in M. W. D. aqueduct pumping plants, the Bartlett Hayward Co., of Baltimore, Md., was awarded a contract for the work by the District's Board of Directors. Ranging in size from 6 ft. x 6 ft., to 5½ ft x 5 ft. the valves will be used in the inlets to the centrifugal pumps to be installed in the five pumping plants. The discs, or "butterfly leaves" in these valves will weigh approximately 5,000 pounds each, and the shafts on which the discs revolve, about 4,600 pounds each. The valves will be operated by electric motors.

## Wuxtree! All Is Revealed!

Voluble, but still defiant, the Field Committee in charge of the employees annual picnic has finally (as predicted in the last *News*) broken down and confessed the whole plot. The big event will be held at the West Portal of the San Jacinto Tunnel, on Sunday, November 8, and the cost of the meal will be 35c per adult, and 15c each for children. There it is, all in one breath-taking statement.

Describing the location, the committee states that it is centrally located for both the Field and the L. A. Office. Within 400 yards of the West Portal there is plenty of wide open space, and lots of shade trees—an ideal spot for a real old time picnic. Within a radius of two miles are the Gilman Hot Springs, Saboba Hot Springs, and the town of San Jacinto. The West Portal is approximately 85 miles from Los Angeles via Riverside.

Aqueduct contractors, and their employees, are most cordially urged to participate in this picnic along with the M. W. D. employees. Included in the activities will be golf (at Gilman Hot Springs), barnyard golf (horseshoes), baseball, tennis, and swimming at Gilman and Saboba Hot Springs. The Field are also arranging a group of vodvil acts with local aqueducters providing the talent.

It is hoped that everyone will take advantage of the dinner, a Spanish fandango effect, as it will be a real treat (not literally—cost is 35c per). Bulletins will be posted in all camps and offices giving detailed information, along with a map showing the location of the West Portal.

## Who's Who On the Aqueduct

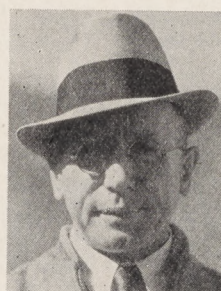
### GEORGE R. LEBARON

*Right of Way Agent, M. W. D.*

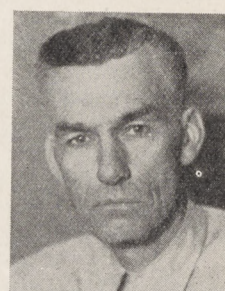
Born Oct. 25, 1881, in Pensacola, Florida. . . . Attended Rock Hill College. . . . 1903-1910 was Secretary and Manager of the supply department of the El Paso Foundry and Machinery Co. . . . 1910-1922 was member of the firm of Broadus and LeBaron, El Paso, Texas. . . . 1922-1932 was Vice-President and Sales Manager of W. I. Hillingsworth Company, Los Angeles. . . . Total of 22 years in Real Estate and Land Business. . . . Since April, 1932, has been employed as Right of Way Agent for the Metropolitan Water Dis-



George R. LeBaron



E. A. Moritz



John R. Austin

trict. . . . He is married and has three daughters, two of whom are married.

### E. A. MORITZ

*Construction Engineer, U. S. B. R., Parker Dam*

Born in Michigan, 1882. . . . Graduated from University of Wisconsin. . . . 1910-1921 with U. S. Reclamation Service as engineer in Yakima, Helena, and Washington, D. C. offices. . . . Office engineer, Denver, and project manager Flathead project, Montana. . . . 1921-1934 with general contracting firm of C. J. Moritz, Inc., Effingham, Ill. During 13-year period this firm built over 200 miles of highways, as well as large buildings and other structures.

### EXHIBIT PIPES PUT TO WORK

Following the path of most luminaries who drop from the spotlight to the obscurity of hard work, the two precast concrete pipe sections which were the main feature of the M. W. D. exhibit at the L. A. County Fair, were placed in the trench on schedule 6 of the Distribution Div. on Oct. 12. Records kept by the District's attendants at the exhibit, show that approximately 75,000 people inspected the two big pipe sections.

. . . . Returned to Reclamation Bureau in 1934, first, as office engineer, and later as construction engineer at Parker Dam. . . . Has written a number of technical magazine articles, and is the author of an engineering reference book. . . . Is a member of American Society of Civil Engineers, and Tau Beta Pi, engineering fraternity. . . . He is married and has two sons and a daughter.

### JOHN R. AUSTIN

*Superintendent Lawrence Adit, San Jacinto Tunnel, M. W. D.*

Born April 24, 1887, Monroe, North Carolina. . . . Ten years superintendent,

Lane Bros. Co., contractors, Altavista, Va. . . . 1915-1920 Dravo Construction Co., Pittsburgh, concrete foreman and superintendent of locks and dams on Ohio River, also bridge and heavy concrete building foundations for Bethlehem Steel Co. . . . 1920-1931 General Contracting Corp., Pittsburgh, concrete foreman, general foreman, and superintendent of heavy construction. . . . 1931-1932 Merritt, Chapman and Scott, Baltimore, Md., superintendent of construction on concrete locks at Norfolk, Va., for the United States Government. . . . Has been with the M. W. D. since 1933. . . . Was general foreman on Coachella tunnel construction, and recently transferred to force account work on San Jacinto tunnel.

### PUENTE AREA WANTS AQUEDUCT WATER

Information was requested recently from General Manager Weymouth by representatives of property owners in a 25,000-acre territory between Puente and Pomona, as to the possibility of obtaining Colorado River Aqueduct water for their lands. The area comprises the Puente and San Jose Hills, and the valley between the two ranges. Construction work on the Distribution Division is now in progress near Pomona.